



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/559,920	04/20/2006	Rainer Hochsmann	1156-011	9583
25215 7590 02/27/2007 DOBRUSIN & THENNISCH PC 29 W LAWRENCE ST SUITE 210 PONTIAC, MI 48342			EXAMINER LIN, ING HOUR	
			ART UNIT	PAPER NUMBER
			1725	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/27/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/559,920

Applicant(s)

HOCHSMANN, RAINER

Examiner

Ing-Hour Lin

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 April 2006 and 17 August 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 and 14-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/17/06</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because there is a lack of section headings: Cross References to Related Applications; See 37 CFR 1.78 and MPEP § 201.11; Background of the Invention; Brief Summary of the Invention; Brief Description of the Several Views of the Drawing(s); and Detailed Description of the Invention

Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-12, 14-16 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sachs in view of Herreid et al.

Sachs (col. 4, lines 49+) substantially teaches the claimed method for producing a mold for casting molten metal, comprising: dispensing layers of powder (sand) on an assembly platform (moveable support surface) and bonding together successive layers of porous material (sand) with droplets of a binder material.

Sachs fails to teach the use of powder or sand coated with solvent such as water and bonding agent such as protein or gelatin.

However, Herreid et al (col. 3, lines 45+) teach the use of the use of powder or sand coated with solvent such as water and bonding agent such as protein or gelatin in making a

Art Unit: 1725

molded article casting mold for use in a casting process, including forming bonds between contiguous coated quartz sand (silica sand) particles by hydration and drying the water for the purpose of effectively hardening the mold, wherein the bonding agent is removable in water and sand is recyclable. It would have been obvious to one having ordinary skill in the art to provide Sachs the use of sand coated with solvent such as water and bonding agent such as protein or gelatin as taught by Herreid et al in order to effectively remove casting from the mold and recycle the molding sand.

4. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sachs in view of Herreid et al and further in view of Hattori et al.

Sachs in view of Herreid et al fails to teach the use of a bonding agent including a salt-crystal binder.

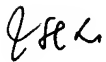
However, Hattori et al (col. 2, lines 14+) teach the use of bonding agent including a salt-crystal binder such as sodium phosphate in making a casting mold for use in a casting process for the purpose of effectively improving dispersion stability and workability including shape retention. It would have been obvious to one having ordinary skill in the art to provide Sachs in view of Herreid et al the use of bonding agent including a salt-crystal binder such as sodium phosphate in making a casting mold as taught by Hattori et al in order to effectively improve dispersion stability and workability including shape retention.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ing-Hour Lin whose telephone number is (571) 272-1180. The examiner can normally be reached on M-F (9:00-5:30).

Art Unit: 1725


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



I.-H. Lin

2/17/07

  
PATRICK JOSEPH RYAN  
PATENT EXAMINER